## I. AMENDMENTS

**IN THE CLAIMS**

Cancel claims 6 and 58 without prejudice to renewal.

Please enter the amendments to claims 5, 8, 9, 59-61, and 63-70, as shown below.

Please enter new claims 71-77, as shown below.

1. (Withdrawn) A glycosyl sulfotransferase present in other than its natural environment, wherein said glycosyl sulfotransferase is selected from the group consisting of GST-4α, GST-4β, and GST-6.

2. (Withdrawn) The glycosyl sulfotransferase according to Claim 1, wherein said glycosyl sulfotransferase is a human glycosyl sulfotransferase.

3. (Withdrawn) The glycosyl sulfotransferase according to Claim 1, wherein said glycosyl sulfotransferase has an amino acid sequence substantially identical to the sequence of SEQ ID NOS:07, 8, 9, 13, or 15.

4. (Withdrawn) A fragment of the glycosyl sulfotransferase according to Claim 1.

5. (Currently Amended) A nucleic acid present in other than its natural environment, wherein said nucleic acid comprises a nucleotide sequence encoding a ~~glycosyl sulfotransferase 4 (GST-4)~~ polypeptide, wherein said ~~GST-4~~ polypeptide comprises an amino acid sequence that is at least 85% identical to the amino acid sequence set forth in SEQ ID NO:08, and wherein said polypeptide catalyzes the transfer of a sulfate group from a donor to a selectin ligand.

6. (Canceled)

7. (Previously presented) A fragment of the nucleic acid according to Claim 5, wherein said fragment encodes a polypeptide that catalyzes the transfer of a sulfate group from a donor to a selectin ligand.

8. (Currently Amended) An isolated nucleic acid that hybridizes at 50°C or higher in a solution of 15 mM NaCl and 1.5 mM sodium citrate to a nucleic acid comprising a nucleotide sequence as set forth in ~~SEQ ID NO:08~~ SEQ ID NO:04 or a complementary sequence thereof, wherein said nucleic acid encodes a glycosyl sulfotransferase.

9. (Currently Amended) An expression cassette comprising a transcriptional initiation region functional in an expression host, a nucleic acid comprising a nucleotide sequence according to Claim 5, claim 65, claim 69, ~~Claim 6,~~ or claim 7 under the transcriptional regulation of said transcriptional initiation region, and a transcriptional termination region functional in said expression host.

10. (Original) A cell comprising an expression cassette according to Claim 9 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell.

11. (Original) The cellular progeny of the host cell according to Claim 10.

12. (Previously presented) A method of producing a glycosyl sulfotransferase polypeptide, said method comprising:

growing a cell according to Claim 10, whereby said glycosyl sulfotransferase polypeptide is expressed; and

isolating said glycosyl sulfotransferase polypeptide substantially free of other proteins.

13. (Withdrawn) A monoclonal antibody binding specifically to a glycosyl sulfotransferase according to Claim 1.

14. (Withdrawn) The antibody according to Claim 13, wherein said antibody inhibits sulfation activity of said glycosyl sulfotransferase.

15. (Withdrawn) The monoclonal antibody according to Claim 13, wherein said antibody is a humanized antibody.

16. (Withdrawn) A method for inhibiting a binding event between a selectin and a selectin ligand, said method comprising:

contacting said selectin with a non-sulfated selectin ligand, glycosyl sulfotransferase according to Claim 1 and an agent that inhibits the sulfation activity of said glycosyl sulfotransferase.

17. (Withdrawn) The method according to Claim 16, wherein said agent is a small molecule.

18. (Withdrawn) A method of inhibiting a selectin mediated binding event in a mammalian host, said method comprising:

administering to said host an effective amount of a pharmaceutical composition comprising an active agent that modulates the sulfation activity of a glycosylsulfotransferase according to Claim 1.

19. (Withdrawn) The method according to Claim 18, wherein said active agent inhibits the sulfation of activity of said glycosyl sulfotransferase.

20. (Withdrawn) The method according to Claim 19, wherein said agent is a small molecule.

21. (Withdrawn) The method according to Claim 19, wherein said agent is an antibody.

22. (Withdrawn) The method according to Claim 19, wherein said active agent modulates the expression of said sulfotransferase.

23. (Withdrawn) A method of modulating a symptom in a mammalian host of a disease condition associated with a selectin mediated binding event, said method comprising:

administering to said host a pharmaceutical composition comprising an effective amount of an active agent that modulates the sulfation activity of a glycosylsulfotransferase according to Claim 1.

24. (Withdrawn) The method according to Claim 23, wherein said symptom is inflammation.

25. (Withdrawn) A method of diagnosing a disease state in a host related to the abnormal levels of a glycosyl sulfotransferase according to Claim 1, said method comprising:

determining the amount of an analyte in a sample from said host, wherein said analyte is selected from the group consisting of glycosyl sulfotransferase according to Claim 1 or a nucleic acid related thereto; and

comparing the amount of said analyte in said host sample to a control value.

26. (Withdrawn) The method according to Claim 25, wherein said determining is quantitative.

27. (Withdrawn) The method according to Claim 25, wherein said determining is qualitative.

28. (Withdrawn) A method of determining whether an agent is capable of modulating the activity of glycosylsulfotransferase according to Claim 1, said method comprising:

contacting a glycosylsulfotransferase according to Claim 1 with a sulfate source, an acceptor compound and said agent; and

determining the affect of said agent on said sulfotransferase activity.

29. (Withdrawn) A non-human transgenic animal model for gene function, wherein said transgenic animal comprises an introduced alteration in a gene encoding a glycosylsulfotransferase according to Claim 1.

30. (Withdrawn) A nucleic acid present in other than its natural environment, wherein said nucleic acid comprises a nucleotide sequence encoding a glycosyl sulfotransferase-4β (GST-4β) polypeptide, wherein said GST-4β polypeptide comprises an amino acid sequence having at least 85% amino acid sequence identity to the amino acid sequence set forth in SEQ ID NO:13.

31. (Withdrawn) A nucleic acid according to claim 30, wherein said nucleic acid comprises a nucleic acid sequence that is substantially identical to or the same as the nucleotide sequence set forth in SEQ ID NOS:11, 12, or 21.

32. (Withdrawn) A nucleic acid according to claim 30, wherein said polypeptide comprises

an amino acid sequence that is substantially identical to or the same as the amino acid sequence set forth in SEQ ID NO:13.

33. (Withdrawn) A fragment of the nucleic acid according to claim 30, wherein said fragment catalyzes the transfer of a sulfate group from a donor to a selectin ligand.

34. (Withdrawn) An isolated nucleic acid that hybridizes at 50°C or higher in a solution of 15 mM NaCl and 1.5 mM sodium citrate to the nucleic acid according to claim 31 or a complementary sequence thereof, wherein said nucleic acid encodes a glycosyl sulfotransferase.

35. (Withdrawn) An expression cassette comprising a transcriptional initiation region functional in an expression host, a nucleic acid comprising the nucleic acid according to claim 30 or claim 33 under the transcriptional regulation of said transcriptional initiation region, and a transcriptional termination region functional in said expression host.

36. (Withdrawn) A cell comprising an expression cassette according to claim 35 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell.

37. (Withdrawn) The cellular progeny of the host cell according to claim 36.

38. (Withdrawn) A method of producing a glycosyl sulfotransferase, said method comprising:

growing a cell according to claim 36, whereby said glycosyl sulfotransferase is expressed; and

isolating said glycosyl sulfotransferase substantially free of other proteins.

39. (Withdrawn) A nucleic acid present in other than its natural environment, wherein said nucleic acid comprises a nucleotide sequence encoding a glycosyl sulfotransferase-6 (GST-6) polypeptide, wherein said GST-6 polypeptide comprises an amino acid sequence that has at least 85% amino acid sequence identity to the amino acid sequence set forth in SEQ ID NO:15.

40. (Withdrawn) A nucleic acid according to claim 39, wherein said nucleic acid comprises a nucleic acid sequence that is substantially identical to or the same as the nucleotide sequence of SEQ ID NOS:14, 16, 18, 19, 20, 22, or 23.

41. (Withdrawn) A nucleic acid according to claim 39, wherein said polypeptide comprises an amino acid sequence that is substantially identical to or the same as the amino acid sequence set forth in SEQ ID NO:15.

42. (Withdrawn) A fragment of the nucleic acid according to claim 39, wherein said fragment catalyzes the transfer of a sulfate group from a donor to a selectin ligand.

43. (Withdrawn) The fragment according to claim 42, wherein said fragment encodes amino acids 851 to 1222 of SEQ ID NO:15.

44. (Withdrawn) An isolated nucleic acid that hybridizes at 50°C or higher in a solution of 15 mM NaCl and 1.5 mM sodium citrate to a nucleic acid of SEQ ID NO:22 or a complementary sequence of SEQ ID NO:22, wherein said nucleic acid encodes a glycosyl sulfotransferase.

45. (Withdrawn) An expression cassette comprising a transcriptional initiation region functional in an expression host, a nucleic acid comprising the nucleic acid according to claim 39 or claim 42 under the transcriptional regulation of said transcriptional initiation region, and a transcriptional termination region functional in said expression host.

46. (Withdrawn) A cell comprising an expression cassette according to claim 45 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell.

47. (Withdrawn) The cellular progeny of the host cell according to claim 46.

48. (Withdrawn) A method of producing a glycosyl sulfotransferase, said method comprising:

growing a cell according to claim 46, whereby said glycosyl sulfotransferase is

expressed; and

isolating said glycosyl sulfotransferase substantially free of other proteins.

49. (Withdrawn) An isolated nucleic that hybridizes at 50°C or higher in a solution of 15 mM NaCl and 1.5 mM sodium citrate to the nucleic acid according to claim 6 or a complementary sequence thereof, wherein said nucleic acid detects GST-4α polynucleotides.

50. (Withdrawn) The isolated nucleic acid of claim 49, wherein said nucleic acid is from about 20 to about 1000 nucleotides in length.

51. (Withdrawn) An isolated nucleic acid that hybridizes at 50°C or higher in a solution of 15 mM NaCl and 1.5 mM sodium citrate to the nucleic acid according to claim 31 or a complementary sequence thereof, wherein said nucleic acid detects GST-4β polynucleotides.

52. (Withdrawn) The isolated nucleic acid of claim 51, wherein said nucleic acid is from about 20 to about 1000 nucleotides in length.

53. (Withdrawn) An isolated nucleic acid that hybridizes at 50°C or higher in a solution of 15 mM NaCl and 1.5 mM sodium citrate to the nucleic acid according to claim 40 or a complementary sequence thereof.

54. (Withdrawn) The isolated nucleic acid of claim 53, wherein said nucleic acid is from about 20 to about 3500 nucleotides in length.

55. (Withdrawn) The nucleic acid of claim 5, wherein said nucleic acid encodes a GST-4α polypeptide comprising an amino acid sequence that is at least 90% identical to SEQ ID NO:08.

56. (Withdrawn) The nucleic acid of claim 30, wherein said nucleic acid encodes a GST-4β polypeptide comprising an amino acid sequence that is at least 90% identical to SEQ ID NO:13.

57. (Withdrawn) The nucleic acid of claim 39, wherein said nucleic acid encodes a GST-6 polypeptide comprising an amino acid sequence that is at least 90% identical to SEQ ID NO:15.

58. (Canceled)

59. (Currently amended) The nucleic acid of claim 5 ~~58~~, wherein the selectin ligand is an E-selectin ligand.

60. (Currently amended) The nucleic acid of claim 5 ~~58~~, wherein the selectin ligand is a P-selectin ligand.

61. (Currently amended) The nucleic acid of claim 5 ~~58~~, wherein the selectin ligand is an L-selectin ligand.

62. (Previously presented) The nucleic acid of claim 61, wherein the L-selectin ligand is selected from GlyCAM-1, CD34, MAdCAM-1, Sgp200, and podocalyxin.

63. (Currently amended) The nucleic acid of claim 5, wherein the [[GST-4]] polypeptide comprises an amino acid sequence that is at least 90% identical to the amino acid sequence set forth in SEQ ID NO:08.

64. (Currently amended) The nucleic acid of claim 5, wherein the [[GST-4]] polypeptide comprises the amino acid sequence set forth in SEQ ID NO:08.

65. (Currently amended) The nucleic acid of claim 5 [[6]], wherein said nucleic acid comprises a nucleic acid sequence that is at least 85% identical to the nucleotide sequence of SEQ ID NOs: 03 or 04 ~~01, 02, 03, 04, or 10~~.

66. (Currently amended) The nucleic acid of claim 5 [[6]], wherein said nucleic acid comprises a nucleic acid sequence that is at least 90% identical to the nucleotide sequence of SEQ ID NOs: 03 or 04 ~~01, 02, 03, 04, or 10~~.

67. (Currently amended) The nucleic acid of claim 5 [[6]], wherein said nucleic acid comprises a nucleic acid having the nucleotide sequence set forth in any one of SEQ ID NOs: 03 and 04 ~~03, 04, and 10~~.

68. (Currently amended) A composition comprising the nucleic acid of any one of claims 5, [[6,]] 7, [[58,]] 63, 69, and 66.

69. (Currently amended) A nucleic acid present in other than its natural environment, wherein said nucleic acid comprises a nucleotide sequence encoding a fragment ~~fragment of the nucleic acid according to claim 5, wherein said fragment encodes~~ of a polypeptide that comprises an amino acid sequence that is at least 85% identical to the amino acid sequence set forth in SEQ ID NO:08, wherein said fragment comprises a functional domain selected from a donor binding site and an acceptor binding site, wherein said functional domain is at least 10 amino acids in length. ~~of a glycosyl sulfotransferase 4~~.

70. (Currently amended) A ~~fragment~~ nucleic acid according to claim 69 [[65]], wherein said polypeptide comprises an amino acid sequence that is at least 90% identical to the amino acid sequence set forth in SEQ ID NO:08 ~~functional domain is selected from a donor binding site and an acceptor binding site~~.

71. (New) The nucleic acid of claim 69, wherein the polypeptide comprises the amino acid sequence set forth in SEQ ID NO:08.

72. (New) The nucleic acid of claim 69, wherein said nucleic acid comprises a nucleic acid sequence that is at least 85% identical to the nucleotide sequence of SEQ ID NOs: 03 or 04.

73. (New) The nucleic acid of claim 69, wherein said nucleic acid comprises a nucleic acid sequence that is at least 90% identical to the nucleotide sequence of SEQ ID NOs: 03 or 04.

74. (New) The nucleic acid of claim 69, wherein said nucleic acid comprises a nucleic acid having the nucleotide sequence set forth in any one of SEQ ID NOs: 03 and 04.

75. (New) The nucleic acid of claim 69, wherein said fragment comprises a donor binding

site.

76. (New) The nucleic acid of claim 69, wherein said fragment comprises an acceptor binding site.

77. (New) The nucleic acid of claim 69, wherein said functional domain is at least 50 amino acids in length.

## II. REMARKS

**Formal Matters**

Claims 1-5, 7-57, and 59-77 are pending after entry of the amendments set forth herein.

Claims 5-12 and 58-70 were examined and were rejected. Claims 1-4 and 13-57 were withdrawn from consideration.

Claims 5, 8, 9, 59-61, and 63-70 are amended. The amendments to the claims were made solely in the interest of expediting prosecution, and are not to be construed as an acquiescence to any objection or rejection of any claim. Support for the amendments to claims 5, 8, 9, 59-61, and 63-70 is found in the claims as originally filed, and throughout the specification, in particular at the following exemplary locations: claim 5: page 7, lines 5-9; claims 69 and 70: page 10, lines 1-6; and page 10, lines 14-16. Accordingly, no new matter is added by these amendments.

Claims 6 and 58 are canceled without prejudice to renewal, without intent to acquiesce to any rejection, and without intent to surrender any subject matter encompassed by the canceled claims. Applicants expressly reserve the right to pursue any canceled subject matter in one or more continuation and/or divisional applications.

Claims 71-77 are added. Support for new claims 71-74 is found in the claims as originally filed, and throughout the specification, including the following exemplary locations: page 11, lines 8-9; page 11, lines 18-20; page 12, lines 11-18; page 7, lines 16-17; and page 10, lines 13-15. Accordingly, no new matter is added by these new claims.

Applicants respectfully request reconsideration of the application in view of the remarks made herein.

Examiner Interview

The undersigned Applicants' representative wishes to thank Examiner Monshipouri for the courtesy of the telephonic interview which took place on October 6, 2003, and which was attended by Applicants' representative Paula A. Borden, Examiner Monshipouri, and by Debra Glaister, representing the licensee. During the telephonic interview, the rejections under 35 U.S.C.§, first and second paragraphs, and the art rejections were discussed. The remarks made below reflect the discussions during the interview.

During the telephonic interview, the Examiner requested information regarding the amino acid sequence identities between proteins designated GST-4α and GST-4β, as well as the protein designated GST-3 in the cited art (as discussed further below). Amino acid sequence identities between specific GST-4α and GST-4β polypeptides discussed in the instant application, and for a GST-3 polypeptide, are provided below.[1]

1. SEQ ID NO:08 (human GST-4α):
   SEQ ID NO:13 (human GST-4β)
   85 % amino acid sequence identity

2. SEQ ID NO:07 (mouse GST-4):
   SEQ ID NO:08 (human GST-4α)
   76 % amino acid sequence identity

3. SEQ ID NO:07 (mouse GST-4):
   SEQ ID NO:13 (human GST-4β)
   83% amino acid sequence identity

4. SEQ ID NO: 08 (human GST-4α):
   SEQ ID NO:02 of U.S. Patent No. 6,265,192 (human GST-3)
   53% amino acid sequence identity

Rejoinder

Applicants respectfully request rejoinder of method claims to the extent that they incorporate all the limitations of an allowed claim, as provided for under MPEP §821.04.

Rejection under 35 U.S.C.§112, first paragraph

Claims 5-7, 9-12, and 58-67 were rejected under 35 U.S.C.§112, first paragraph, as allegedly lacking written description.

[1] The alignments were performed using the BLAST alignment program available on the world wide web at ncbi.nlm.nih.gov/blast/bl2seq/bl2.html, using default parameters. Tatusova and Madden (1999), "Blast 2 sequences - a new tool for comparing protein and nucleotide sequences", FEMS Microbiol Lett. 174:247-250.

The Office Action stated that the phrase "GST-4 polypeptide, wherein said GST-4 polypeptide comprises an amino acid sequence that is at least 85% identical to SEQ ID NO:8" is new matter. Applicants respectfully traverse the rejection.

As explained during the telephone interview, SEQ ID NO:08 is a polypeptide that is designated "human GST-4α" in the instant application, and "GST-4" in the parent application, 60/144,694. In the parent case, for example, the specification states on page 4, under Brief Description of the Figures, "Fig. 1 provides the cDNA sequence and amino acid sequence of human GST-4. The full length cDNA sequence is SEQ ID NO:03, the coding DNA sequence is SEQ ID NO:04 and the amino acid sequence of the protein encoded by the open reading frame is SEQ ID NO:08." The instant specification refers to a polypeptide having an amino acid sequence as set forth in SEQ ID NO:08 as "GST-4α." Specification, page 4, lines 26-29; and page 7, lines 16-17.

As noted above, the 60/144,694 specification discloses SEQ ID NO:08. The 60/144,694 specification further states that in addition to specifically listed polypeptides (e.g., a polypeptide having an amino acid sequence as set forth in SEQ ID NO:08), proteins that are at least 85% identical are provided. 60/144,694 specification, page 6, lines 21-22; and page 7, lines 6-16. Accordingly, claims 5-7, 9-12, and 58-67 do not add new matter.

The instant specification states that polypeptides are provided that comprise an amino acid sequence having at least 85% amino acid sequence identity to a specifically listed protein (e.g., a polypeptide having an amino acid sequence as set forth in SEQ ID NO:08). Specification, page 8, lines 21-23; and page 8, line 29 to page 9, line 2; and page 44, lines 28-29.

Notwithstanding the above remarks, and solely in the interest of expediting prosecution, claim 5 is amended to recite "A nucleic acid present in other than its natural environment, wherein said nucleic acid comprises a nucleotide sequence encoding a polypeptide, wherein said polypeptide comprises an amino acid sequence that is at least 85% identical to the amino acid sequence set forth in SEQ ID NO:08, and wherein said polypeptide catalyzes the transfer of a sulfate group from a donor to a selectin ligand."

As discussed in the telephone interview, the term "GST-4" is deleted, and the phrase "wherein said polypeptide catalyzes the transfer of a sulfate group from a donor to a selectin ligand" is added. Support for such amendments is found throughout the specification, and in particular at the following locations: page 8, lines 19-20 ("In addition to the above specifically listed proteins, glycosyl sulfotransferases from other species are also provided..."); page 8, line 29 to page 9, line 1 ("In many embodiments of interest, homology will be at least 75, usually at least 80 and more usually at least 85%..."); page 7, lines 5-6 ("The subject glycosylsulfotransferases are capable of sulfating selectin ligands..."); and page 7, lines 7-9 ("...the subject sulfotransferases are capable of catalyzing the transfer of a sulfate group from a donor compound to a position on a selectin ligand precursor as acceptor compound.").

Applicants submit that the rejection of claims 5-7, 9-12, and 58-67 under 35 U.S.C. §112, first paragraph, has been adequately addressed in view of the remarks set forth above. The Examiner is thus respectfully requested to withdraw the rejection.

Rejection under 35 U.S.C.§112, second paragraph

Claims 69 and 70 were rejected under 35 U.S.C.§112, second paragraph, as allegedly indefinite.

The Office Action stated that the phrase "functional domain" is indefinite. Applicants respectfully traverse the rejection.

The specification discusses functional domains of glycosyl sulfotransferases disclosed in the specification. The specification states that the invention provides fragments of the glycosyl sulfotransferases disclosed therein, including fragments, such as fragments corresponding to functional domains, e.g., an acceptor binding site, and the donor binding site. Thus, the term "functional domain" is clear.

Nevertheless, and solely in the interest of expediting prosecution, claims 69 and 70 are amended to recite "a functional domain selected from a donor binding site and an acceptor binding site."

Applicants submit that the rejection of claims 69 and 70 under 35 U.S.C. §112, second paragraph, has been adequately addressed in view of the remarks set forth above. The Examiner is thus respectfully requested to withdraw the rejection.

Rejection under 35 U.S.C.§102(a)

Claims 5-7, 8-12, and 58-70 were rejected under 35 U.S.C.§102(a) as allegedly anticipated by Lee et al. ((September 24, 1999) *Biochem. Biophys. Res. Comm.* 263:543-549; hereinafter "Lee").

The Office Action stated that SEQ ID NO:10 was not disclosed in the provisional application filed July 20, 1999, and that SEQ ID NO:10 can only benefit from the June 13, 2000 filing date of the instant application. The Office Action further stated that Lee discloses a DNA sequence having 100% identity to SEQ ID NO:10 that inherently encodes SEQ ID NO:8. Applicants respectfully traverse the rejection.

Lee is not available as prior art under 35 U.S.C.§102(a), because Lee is the Applicants' own work. Applicants' disclosure of their own work within one year before the application filing date cannot be used against them under 35 U.S.C.§102(a). Therefore, where the applicants are co-authors of a publication cited against their application, the publication may be removed as a reference by submission of a declaration establishing that the article is describing applicants' own work, *i.e.*, that the publication is not "by another." The Courts have found that persons involved only with assay and testing are normally listed as coauthors but are not considered co-inventors.[2] Authorship of an article by itself does not raise a presumption of inventorship with respect to the subject matter disclosed in the article. Thus, co-authors may not be presumed to be coinventors merely from the fact of co-authorship.

The situation in the present application is similar to that of *In re Katz*. First, the September 24, 1999 publication date of Lee is less than one year before the June 13, 2000 filing date of the instant application. Second, Lee is the inventors' own work, and as such is not invention "by another."

[2]In *In re Katz*, 215 USPQ 14 (CCPA 1982), Katz stated in a declaration that the coauthors of the cited publication, Chiorazzi and Eshhar, "were students working under the direction and supervision of the inventor, Dr. David H. Katz." The court held that this declaration, in combination with the fact that the publication was a research paper, was enough to establish Katz as the sole inventor and that the work described in the publication was his own. In research papers, students involved only with assay and testing are normally listed as coauthors but are not considered co-inventors.

It is Applicants' position that as claims 5-7, 8-12, 58-64, and 68-70 do not specifically recite SEQ ID NO:10, this rejection is not properly applied to these claims. The only claims that explicitly recite SEQ ID NO:10 are claims 65-67. Without conceding as to the correctness of this rejection, claims 65, 66, and 67 are amended to delete "SEQ ID NO:10." Provisional application 60/144,694 discloses SEQ ID NO:04, which is an open reading frame that encodes a human GST-4α (designated "GST-4" in the provisional application).

Applicants submit that the rejection of claims 5-7, 8-12, and 58-70 under 35 U.S.C. §102(a) has been adequately addressed in view of the remarks set forth above. The Examiner is thus respectfully requested to withdraw the rejection.

Rejection under 35 U.S.C.§102(e)

Claims 6-12, 61, 62, and 68 were rejected under 35 U.S.C.§102(e) as allegedly anticipated by Bistrup (U.S. Patent No. 6,265,192).

The Office Action stated that Bistrup teaches and claims an isolated DNA sequence that has glycosyl sulfotransferase function. Applicants respectfully traverse the rejection.

As discussed during the telephone interview, Bistrup provides SEQ ID NO:02, which is the amino acid sequence of a human polypeptide designated glycosyl sulfotransferase-3 (GST-3) and which is encoded by SEQ ID NO:01 of Bistrup. As noted above, SEQ ID NO:02 of Bistrup has less than 85% amino acid identity to SEQ ID NO:08 of the instant application. Accordingly, Bistrup does not disclose a nucleic acid that comprises a nucleotide sequence encoding a polypeptide that comprises an amino acid sequence that is at least 85% identical to the amino acid sequence set forth in SEQ ID NO:08.

Applicants submit that the rejection of claims 6-12, 61, 62, and 68 under 35 U.S.C. §102(e) has been adequately addressed in view of the remarks set forth above. The Examiner is thus respectfully requested to withdraw the rejection.

## III. CONCLUSION

Applicants submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number UCAL138.

Respectfully submitted,
BOZICEVIC, FIELD & FRANCIS LLP

Date: Oct. 22, 2003

By: _____
Paula A. Borden
Registration No. 42,344

BOZICEVIC, FIELD & FRANCIS LLP
200 Middlefield Road, Suite 200
Menlo Park, CA 94025
Telephone: (650) 327-3400
Facsimile: (650) 327-3231

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